

(54) SEMICONDUCTOR DEVICE

(11) 3-71634 (A) (43) 27.3.1991 (19) JP

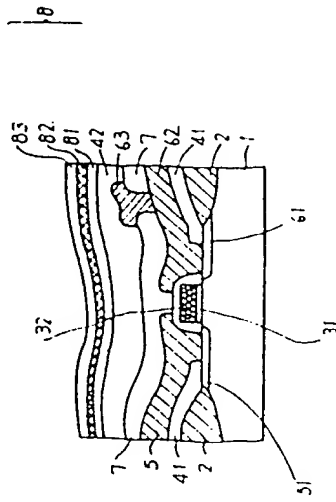
(21) Appl. No. 64-207266 (22) 10.8.1989

(71) FUJITSU LTD (72) TAKAYUKI OBA

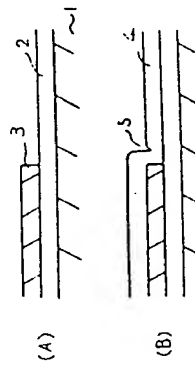
(51) Int. Cl.⁵ H01L21/314

PURPOSE: To prevent hydrogen from diffusing in a semiconductor substrate and to improve the reliability of a device by a method wherein the device is provided with a layer which absorbs the hydrogen existing in insulating films.

CONSTITUTION: A composite film 8 consisting of a metal layer 82, which consists of a metal which absorbs hydrogen to make a hydride, and insulating layers (silicon nitride layers) 81 and 83 is provided on a semiconductor substrate 1 with an element formed on it. A nitrogen-containing insulating layer, such as a silicon nitride layer, contains much hydrogen, where there is the metal layer, which absorbs hydrogen to make a hydride, the hydrogen is absorbed in this metal film. For example, as a metal layer to absorb hydrogen well, a palladium (Pd) layer is formed. Thereby, as hydrogen existing in a surface protective film and an interlayer insulating film can be captured by the metal layer, the diffusion of the hydrogen in a substrate is suppressed and the generation of hot electrons in the substrate can be deterred.



42: insulating film, 63: upper layer drain wiring, 7: interlayer insulating film, 62: drain wiring, 41: insulating film, 53: field oxide film, 32: gate electrode, 61: drain region, 52: gate oxide film, 51: source region, 5: source wiring

**(54) MANUFACTURE OF SEMICONDUCTOR DEVICE**

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(71) FUJITSU LTD (72) ATSUSHIRO TSUKUNE(1)

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PURPOSE: To form phosphosilicate glass films without being accompanied by

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